Fisheries Resource Monitoring Program Study Status Reports for Bristol Bay-Alaska Peninsula/Kodiak-Aleutians

FY 2000 Studies

Togiak River Salmon Weir ($496,000/3 years)
Study Number: FIS 00-010
Investigator(s): Village of Togiak; Bristol Bay Native Association; U.S. Fish and Wildlife Service; Alaska Department of Fish and Game
Status: Ongoing; Annual Report for 2000 Available from Office of Subsistence Management; Annual Report for 2001 due May 2002.

Summary: A site evaluation was conducted on the lower Togiak River on May 5 and 6, 2000, to determine the feasibility of installing a resistance board weir to estimate salmon escapement. After reviewing available flow data and conducting the on-the-ground assessment, investigators determined that operating a weir on lower Togiak River was not practical. While installing a weir at low flow appears feasible, it would be difficult to maintain and operate a weir throughout the salmon migration period. Results and recommendations are documented in the Annual Report for 2000, and were presented to the Togiak Village Council during April 2001.

The investigators reviewed various options and, in February 2001, made a recommendation to the Office of Subsistence Management that Phase II investigations be conducted to determine whether video cameras could be used to estimate salmon escapements into tributaries or the main stem of the Togiak River. A new study plan was developed, and, after review and approval, video monitoring and recording equipment was purchased and evaluated. This equipment is being used at a remote site on the Ongivinuk River, a major tributary to the Togiak River. Cameras at this site have been installed and operated both above and below the surface of the water to collect information. Preliminary results indicate that video observation of salmon passage during low flows and clear water conditions work well. However, fall rains are expected to increase turbidity and will make both counting and species identification more difficult. Water visibility and turbidity are being monitored during this period to determine conditions under which the video cameras can be used. The outcome of this feasibility work will determine the feasibility of developing a video salmon assessment program in partnership with the Village of Togiak and the Bristol Bay Native Association.

Genetic Baseline Development for Dolly Varden in the Togiak River ($34,600/2 years)
Study Number: FIS 00-011
Investigator(s): U.S. Fish and Wildlife Service, Fish Genetics Laboratory, Togiak National Wildlife Refuge, and King Salmon Fishery Resources Office
Status: Ongoing; Annual Reports Available from Office of Subsistence Management, Final Report due December 2001.

Summary: A DNA genetic database using microsatellites was completed in October 2000 for Dolly Varden, and 27 new genetic markers were developed. These markers are currently being tested and applied to Dolly Varden samples collected from three tributaries during August and September 2000: Trail River (103 samples), Ongivinuck River (89 samples), and Kashaiak River (23 samples). Archived samples from 1998 are also being included in analyses: Trail River (11 samples), Ongivinuck River (30 samples), and Kashaiak River (28 samples). Samples were from Dolly Varden in either pre- or post-spawning condition, so collections will be suitable for evaluating genetic population structure and determining the feasibility of using the genetic baseline for mixed stock analyses. Sampling trips were accessed using a helicopter and river raft.

This study builds on earlier work conducted by the U.S. Fish and Wildlife Service in cooperation with the Village of Togiak and Village Councils beginning in 1998. The 2000 study was discussed at meetings of the Togiak City Council, Togiak Village Council, and Bristol Bay Native Association. On-site consultations were held with local residents during field collection operations, during which information on spawning ground locations and Dolly Varden movements was obtained. Togiak National Wildlife Refuge staff also provided study information to local residents, asked residents to inform the Refuge whenever they harvested a tagged char, and provided residents with information on the previous history of all tagged char that were harvested and reported. This has generated much local interest in the life history of Dolly Varden. This spring, Bristol Bay Native Association conducted a subsistence harvest survey in anticipation of applying the genetic baseline to harvest samples. Briefings on results of 2001 work will be held for the villages of Togiak and Twin Hills.

Traditional Knowledge of Fish in the Bristol Bay Area ($39,600/1 year)
Study Number: FIS 00-012
Investigator(s): Alaska Department of Fish and Game, Division of Subsistence
Status: Ongoing; Final Report due December 2001.

Summary: Traditional Ecological Knowledge on Bristol Bay subsistence fisheries is being assembled in a searchable computer database (AskSam format) from a variety of sources including trip reports, audiotapes, and other paper and electronic files. Work is slightly behind schedule due in part to the volume and complexity of the data discovered during this investigation, and additional personnel support was arranged to complete the study. The database has been setup, a system of coding the data has been established, and data entry is being

completed. Consultations took place with Bristol Bay Native Association during study development, and a workshop and training session on using the database, originally scheduled for April 2001, will be held for this organization in November 2001.

Statewide Subsistence Fisheries Harvest Monitoring Strategy ($203,400/1 year)
Study Number: FIS 00-017
Investigator(s): Alaska Department of Fish and Game, Division of Subsistence; and Alaska Inter-Tribal Commission
Status: Completed; Final Report Available from Office of Subsistence Management

Summary: The primary objective of this project was to develop recommendations to the Federal Subsistence Board for designing a unified strategy for conducting subsistence fishery harvest assessment in Alaska. The investigators convened a workgroup that reviewed current subsistence fisheries harvest assessment programs, and developed recommendations based upon this review. All objectives were achieved within scheduled time frames and budget guidelines. AITC is the co-investigator and one-half of the workgroup was comprised of tribal representatives. This project explicitly conceptualized the role of tribes in assessing subsistence harvests.

A total of four full workgroup meetings were held, in addition to several teleconferences and subgroup meetings. A report was drafted, distributed for public comment, and those comments addressed in the final draft. Included in the final report are: a technical subcommittee report regarding technical issues of estimating subsistence harvest; and a tribal subcommittee report regarding the role of tribes in assessing subsistence harvest. Also included in the report were two FY 2001 proposals for follow-up work from this effort. A final report was submitted in December 2000.

The workgroup identified several concerns that should be pursued, and addressed these in two 2001 proposals. First, operational plans need to be systematically developed for all subsistence fishery harvest assessment programs throughout the state. Such plans are needed to ensure technical merit and rigor, as well as public credibility of collected information. Operational plans need to be developed cooperatively and should include training components. A 2001 study**,** Implementation of Statewide Subsistence Fisheries Harvest Assessment Strategy, FIS 01-107, was funded to accomplish this task (see below). Second, the reliability of existing time series of subsistence harvest estimates (permits, calendars) is unknown and needs to be validated against estimates derived from more intense, community interviews. Another 2001 study, The Validity and Reliability of Fisheries Harvest Assessment Methods, FIS 01-106, was funded to accomplish this task.

Sockeye Salmon Escapement Estimation in the Alagnak River Drainage ($275,000/2 years)
Study Number: FIS 00-031
Investigator(s) Information: Bristol Bay Native Association; Alaska Department of Fish and Game, Division of Commercial Fisheries; National Park Service, Katmai National Preserve
Status: Ongoing; Annual Report Available from Office of Subsistence Management, Final Report due January 2002.

Summary: Investigators identified a number of potential tower sites during surveys on the Alagnak River in 2000. After further evaluations, a preferred site was selected for this study, and land use permits and other necessary land use approvals were obtained. Counting of chinook, sockeye, chum, and coho salmon began June 26, 2001 and continued through August 26, 2001. Conditions were favorable and counts were made on all days. Unfortunately, high water conditions persisted all season, so salmon passing the counting site could not be caught and sampled. Therefore, investigators plan to collect otoliths this fall from salmon spawning in four areas of the drainage to estimate age composition of escapements. Alaska Department of Fish and Game protocols for collecting and reading otoliths will be followed. Another problem encountered this season was the unwillingness of hired local residents to remain on the project throughout the season. The need to continually replace and train field workers during the season not only decreased operating efficiency, but also brought into question the comparability, quality, and usefulness of counts. To avoid this problem next season, Bristol Bay Native Association will take responsibility for recruiting and hiring local residents to work on the study. While Village of Levelock residents will continue to receive hiring preference, efforts will be made to only hire local area residents willing to commit to working the entire season.

Title: Stock Assessment of Sockeye Salmon from the Buskin River ($275,000/3 years)
Study Number: FIS 00-032
Investigator(s): Alaska Department of Fish and Game, Division of Sport Fish
Status: Ongoing; Annual Reports Available from Office of Subsistence Management.

Summary: This project provides information used to manage Buskin River sockeye salmon fisheries to help ensure that the biological escapement goal is achieved while maintaining maximum harvest opportunities for subsistence users. During 2000, a weir was operated on the Buskin River from May 25 through July 26, and a total of 20,544 sockeye salmon were counted and passed. Scale samples and length measurements were collected from 177 male and 170 female sockeye salmon during the course of the run. The subsistence harvest in Chiniak Bay was also sampled between June 8 and July 12, 2000, and scale samples and length measurements were collected from 269 sockeye salmon. Since the weir site being used only allows sockeye salmon entering Buskin Lake to be counted and samples, a new site on the lower Buskin River was evaluated for placement of a weir that would allow all sockeye entering the system to be counted. Unfortunately, feasibility studies conducted during 2001 indicated it would not be possible to operate a weir at this site throughout the season due to river flow and other site

characteristics. Therefore, investigators recommend installed a weir in the tributary flowing into the Buskin River from the Lake Genevieve and Lake Louise drainage. This new weir in combination with the existing Buskin Lake weir would allow complete enumeration of sockeye salmon spawning escapements for the entire drainage. This recommendation needs to be reviewed before this modification to the investigation plan and agreement is approved.

An Alaska Native and another local resident were hired as seasonal workers for this study in both 2000 and 2001. The Buskin River weir serves as an educational platform for the Kodiak National Wildlife Refuge's "Summer Salmon Camp", which provides local youths an opportunity to visit the weir and gain knowledge about fisheries management. Prior to construction of a new weir, consultations with local, state and federal government agencies, as well as local organizations, will be conducted to obtain permits, explore cooperative partnerships, and plan operations.

Angler Effort Index for the Alagnak River ($41,700/1 year)
Study Number: FIS 00-033
Investigator(s): Bristol Bay Native Association; Village of Levelock; National Park Service, Katmai National Preserve; Alaska Department of Fish and Game, Division of Commercial Fisheries
Status: Completed; Final Report Due October 2001.

Summary: The study was scheduled to run from June 10 through September 15, 2000, with sampling occurring every day. Alaska Department of Fish and Game, Sport Fish Division staff assisted in designing the study by providing historical data, reviewing the investigation plan, and providing some training to the technicians on collecting and recording angler count data. Levelock Natives Limited and Bristol Bay Native Association provided local knowledge of river distances, conditions, and use patterns. Levelock Village patrol officers and National Park Service employees attempted to count anglers and boats within designated river sections during the summer months of 2000. However, various problems occurred, including equipment malfunctions, conflicting missions, inadequate supervision, and budget confusion. Outboard boat engine mechanical problems limited the ability of the crew to accomplish counts for extended periods in both June and July. Data recording problems, in which information from a trained observer differed from that collected by the field crew, were also noted. In an attempt to fix this problem, new data recording forms were developed and given to field crews, but it was unclear whether the new forms were used. Collected information indicated most sport fishing effort occurred in the lower rather than the upper section of the river, most effort occurred within the tidal section of the lower river, and peak effort occurred during July.

Capacity development occurred through cooperative efforts of investigators in developing and operating this study. Two seasonal field crew positions were advertised and recruited from the Levelock area. The difficulties encountered with this study, while not expected, sometimes occur with initial collaborative efforts among local organizations and government agencies. It

was anticipated that participants learned from these problems and will be able to successfully address them in future efforts. In fact, results from this project were used to plan more intensive sport fish creel surveys of the Alagnak River that were funded in 2001, Togiak River Subsistence Harvest Monitoring, FIS 01-047 (see below).

Lake Clark Sockeye Salmon Assessment ($207,000/2 years)
Study Number: FIS 00-042
Investigator(s): U.S. Geological Survey-Biological Resources Division; Alaska Department of Fish and Game, Gene Conservation Laboratory
Status: Ongoing; Report for 2000 Available from Office of Subsistence Management.

Summary: In 2000, 175 sockeye salmon were tagged with radio transmitters and followed to their final spawning destinations. Over 15 new spawning aggregations were found in addition to those determined from historical records and Traditional and Ecological Knowledge. One hundred genetic samples were also collected at each of 14 spawning sites. These samples are being processed in cooperation with the Alaska Department of Fish and Game, Gene Conservation Laboratory. A counting tower was established in cooperation with University of Washington on the Newhalen River, and 172,904 salmon were estimated to have passed the tower in 2000. A total of 1,037 otoliths and corresponding lengths were obtained from post-spawning sockeye salmon at a diverse array of habitats to determine the size and age composition of the Lake Clark spawning population.

In 2001, 157 sockeye salmon were tagged with radio transmitters and are being followed to their final spawning destinations using planes, boats and remote monitors. This will help ensure that all major spawning sites have been located, and will also provide a second season of information on run timing and migratory movements. A graduate student from University of Alaska, Fairbanks, is conducting tracking activities, and a graduate student from University of Montana is processing and analyzing genetic samples obtained from Lake Clark sockeye salmon in 2000 and 2001.

Two Alaska Native student interns were hired to assist with work in 2000, and three interns from Newhalen, Nondalton and Port Alsworth were hired in 2001. Interns received training in salmon life history, safety, and sampling techniques. They also gained experience in operating counting towers, collecting genetic samples and otoliths, tagging salmon with radio transmitters, entering data, and monitoring the age and size composition of Nondalton subsistence catches.

Seven meetings were held with regional tribal organizations in 2000 during the course of study planning and implementation. In 2001, activities to develop capacity and distribute study information included making educational presentations at Newhalen and Nondalton schools; assisting interns in Iliamna, Newhalen, and Nondalton; and meeting with staff from the Kijik Corporation, Alaska Department of Fish and Game, and National Park Service.

FY 2001 Studies

Togiak River Subsistence Harvest Monitoring ($148,100/3 years)
Study Number: FIS 01-047
Investigators: Bristol Bay Native Association; Alaska Department of Fish and Game, Division of Subsistence; and U.S. Fish and Wildlife Service, Togiak National Wildlife Refuge and King Salmon Fisheries Resource Office
Status: Ongoing; Annual Report Due March 2002.

Summary: Two Togiak residents, approved by the Togiak Traditional Council, were hired and trained to document subsistence fishing activities on the Togiak River, by conducting in- and post-season interviews with subsistence fishers, collecting subsistence harvest information during the fishing season, and sampling catches to obtain biological data. These field technicians were also trained to issue subsistence fishing permits. The Togiak Traditional Council, Bristol Bay Native Association, Alaska Department of Fish and Game, and U.S. Fish and Wildlife Service worked together to develop a training plan, held a series of coordination and planning meetings, and participated in training workshops for the field technicians. Unfortunately, field activities in 2001 began later than planned, problems were encountered with the boat originally being used, and the study did not yield enough information in 2001 to be of use to fishery managers. However, useful harvest information should be obtained from post-season interviews, and this information may also help evaluate the effectiveness of the subsistence fishing permit system used this season. Biological information was collected from salmon, resident fishes, and anadromous Dolly Varden harvested during subsistence fisheries. Alaska Department of Fish and Game, Division of Commercial Fisheries staff will process salmon age data, and U.S. Fish and Wildlife Service, Togiak National Wildlife Refuge, staff will analyze resident fishes and Dolly Varden age data.

Several modifications to the current investigation plan are being considered for 2002. These include 1) monitoring subsistence sites on Togiak Bay when sites in Togiak River are not being used, 2) collecting biological samples from harvests at processing sites in the village rather than at fishing sites, 3) beginning field work earlier in the season to obtain better information on chinook salmon subsistence harvests, and 4) adjusting the annual field activity period from April–December to January-March so that winter subsistence fishing information can be collected. Finally, to promote greater understanding about the project, a meeting on the study will be held in Togiak prior to the 2002 field season. It is hoped this will make residents more comfortable with participating in the study. There appeared to be misunderstanding and apprehension about the work in 2001, even though much information had been provided, including 1) posted job descriptions for the technician positions, 2) local radio station Public Service Announcements stating the intent of the project, 3) an article about the study in the Bristol Bay Native Association Newsletter, and 4) posted announcements describing the project around the Village of Togiak.

Estimation of Sockeye Salmon Escapement into McLees Lake, Unalaska Island ($246,500/3 years)
Study Number: FIS 01-059
Investigators: U.S. Fish and Wildlife Service, Kenai Fisheries Resource Office
Status: Ongoing; Annual Report Due April 2002.

Summary: This study will provide estimates of the number of sockeye salmon passing through a weir to spawn in the McLees Lake drainage. The weir was operated from June 15 through July 30, 2001. While original plans were to operate the weir from June 1 through mid-August, problems in finalizing a land lease agreement with Ounalashka Corporation delayed the start of weir operations, while declines in sockeye salmon passage after July 22 led to removal of the weir on July 31. While some of the sockeye salmon run had already passed the weir site prior to June 15, peak passage occurred during late June and early July. A total of 45,866 sockeye salmon were counted through the weir during the time the weir was operated. The abundance of the run was much greater than anticipated, since aerial survey counts in past years have ranged from 300 - 11,000 sockeye salmon. Picket spacing on some weir panels was reduced from 3.4 cm (1 3/8 inch) to 2.2 cm (7/8 inch) after the first few days of operations since some sockeye salmon were becoming wedged between pickets. Age, length, and sex information were collected from a sample of 480 sockeye salmon, and scale samples were sent to the Alaska Department of Fish and Game's Kodiak office for processing.

An excellent working relationship developed among Qawalangin Tribe, U.S. Fish and Wildlife Service, and Alaska Department of Fish and Game. The weir crew consisted of a U. S. Fish and Wildlife Service employee and a locally hired technician. A boat owned by local resident was chartered to transport crew, equipment, and supplies to the weir site at the beginning and from the site at the end of field operations. Alaska Department of Fish and Game provided personnel and a skiff to transport groceries and supplies from Dutch Harbor to the weir site during June and July, and also provided bunkhouse space for the weir crew in Dutch Harbor at the beginning and end of field operations.

Collection of Traditional Ecological Knowledge on Sockeye Salmon Harvest Patterns in Nondalton, Alaska ($31,700/1 year)
Study Number: FIS 01-075
Investigators: Nondalton Tribal Council; National Park Service, Lake Clark National Park and Preserve; U.S. Geological Survey, Biological Resources Division
Status: Ongoing; Final Report Due April 2002.

Summary: Fourteen interviews were completed to collect information on distribution of sockeye salmon spawning areas around Nondalton, locations of traditional subsistence harvesting areas for salmon and other freshwater fishes, and changes in fishing sites and effort over time. Dena'ina place names related to sockeye salmon, other freshwater fishes, and

traditional harvest areas will be recorded; information from field notes and interview tapes will be compiled; and geographic data from each interview will be incorporated into an existing mapping project for Lake Clark sockeye salmon.

Three local residents and two high school interns were hired to conduct interviews. Training sessions were held in Nondalton to provide instructions on conducting interviews and recording spatial information on maps with Mylar overlays. Meetings were held to describe the work to be done, seek cooperation from potential respondents, and coordinate efforts. Groups contacted included Nondalton Tribal Council; Nondalton Community; Nondalton Environmental Protection Program; Alaska Department of Fish and Game, Division of Subsistence; Kijik Corporation; and Lake Clark Subsistence Resource Commission.

Escapement estimates for Lake Clark sockeye salmon ($229,200/2 years)
Study Number: FIS 01-095
Investigators: U.S. Geological Survey, Biological Resources Division; and University of Washington, School of Fisheries
Status: Ongoing; Annual Report Due December 2001.

Summary: This study will provide estimates of sockeye salmon entering Lake Clark and the Tazimina River to spawn. Flooding and increased water flows were experienced in 2001 due to greater than average snow pack and June air temperatures. Counting operations at river mile 22 of the Newhalen River were conducted from June 18 to August 10. Since migratory behavior, including timing, is affected by high water flows, index counts from the riverbank were made below the Newhalen tower site at river mile 1 as well as below and above a potential velocity barrier at river mile 6.5. No sockeye salmon were observed above the falls during daily, seven-hour observations (20 minutes per hour) until July 7, when flows were estimated to be 27,350 cubic feet per second. Sockeye salmon were observed above the falls each day after that time until observations were discontinued on July 12. The estimated number of sockeye salmon passing the Newhalen River tower site at river mile 22 and entering Lake Clark to spawn was 221,418. This represented about 20% of the total spawning escapement of sockeye salmon into the entire Kvichak River drainage (1,084,556). An aerial survey flown on July 31 resulted in counts of 1,185 sockeye in the Newhalen River, and 600 in the Alexi Creek system. These counts were less than those expected, based historic information collected by Alaska Department of Fish and Game. Counting operations on Tazimina River were delayed due to flooding, and were conducted from July 31 to August 24. This water level was well above the bank from June 18 to July 20, and no sockeye salmon were observed schooling at the mouth of Tazimina River even by mid-July. The Tazimina towers were installed on July 31, after consultation with the Federal Office of Subsistence Management. An aerial survey was also flown on this day to observe the number of sockeye salmon above the tower site. The estimated number of sockeye salmon passing this tower during the time of operation was 7,014. Since the aerial survey indicated an additional 765 sockeye salmon had already passed the site prior to the start of tower operations, a total of at least 7,779 sockeye salmon were estimated to have passed the Tazimina tower site to spawn in 2001. It proved difficult to accurate obtain counts of sockeye salmon at

the selected tower site because sockeye salmon tended to exhibit milling behavior at the site. To avoid this problem in 2002, a different site was selected and will be used.

Students from Newhalen, Iliamna, and Nondalton participated in the study as part of the U.S. Geological Survey's Native Alaskan Internship in Fisheries Program. Written briefings on study operations and sockeye salmon escapements were mailed to Kijik Corporation and Bristol Bay-Alaska Peninsula Regional Advisory Council members.

The Validity and Reliability of Fisheries Harvest Assessment Methods ($161,300/2 years)
Study Number: FIS01-106
Investigator(s): Alaska Department of Fish and Game, Division of Subsistence; and National Park Service
Status: Ongoing; Annual Report Due September 2001

Summary: A technical committee, comprised of Native, state and federal agency statisticians and analysts, was formed following an organizational meeting in April 2001. Interested parties that participated in the Fisheries Harvest Assessment Working Group (FIS 00-017, see above) will also participate in this committee. Representatives of the Alaska Department of Fish and Game, Division of Subsistence, discussed methods they used to provide salmon harvest methods in Bristol Bay, Northwest Alaska, the Kuskokwim Drainage, and Cook Inlet. The inability to conduct test-retest analyses of harvest reporting was stressed by these investigators. However, response rates were generally high, and special efforts were undertaken to facilitate complete participation. Finally, in an effort to define additional tests comparing the Southeast subsistence salmon permit reports with data from the special subsistence salmon and steelhead harvest surveys, community-level assessments of salmon harvests by location were collected during baseline subsistence harvest surveys in Wrangell, Petersburg and Yakutat. A meeting in September 2001 will help clarify how work will proceed on this study.

Contacts and consultations were made with various individuals from the Alaska Department of Fish and Game, Divisions of Subsistence, Sport Fish, and Commercial Fisheries; Alaska Inter-Tribal Council; Association of Village Council Presidents; Central Council of Tlingit and Haida Tribes of Alaska; Chugach Regional Resources Commission; U.S. Bureau of Land Management; U.S. Fish and Wildlife Service; U.S. Forest Service; and U.S. National Park Service.

Implementation of Statewide Subsistence Fisheries Harvest Assessment Strategy ($308,300/3 years)
Study Number: FIS 01-107
Investigator(s): Alaska Department of Fish and Game, Division of Subsistence
Status: Ongoing; Annual Report Due June 2002

Summary: This study will cooperatively develop operational plans for current subsistence fisheries harvest assessment programs throughout the state. Personnel from Alaska Department of Fish and Game, Division of Subsistence and Division of Commercial Fisheries are writing the

first of these plans for the Kodiak Management Area. No operational plans currently exist for salmon or shellfish subsistence harvest assessment programs in this area. This work began after the first of 12 training workshops was held. Each workshop will focus on different areas of the state and will be used as a forum to discuss harvest assessment methods and use of harvest assessment data. The first workshop was held in Kodiak during May 2001. Tribal representatives from six Kodiak Island villages, the Kodiak Tribe, and the Kodiak Area Native Association attended this workshop along with representatives from the Alaska Inter-Tribal Council, Alaska Department of Fish and Game, U.S. Fish and Wildlife Service, Kodiak-Aleutians Regional Advisory Council, Kodiak Area Advisory Committee, and other participants. The workshop not only resulted in the drafting of operational plans, but also resulted in a number of recommendations from participants on improving the permit process. One of these recommendations, to establish local permit vendors in each of the six Kodiak Island villages, was implemented by the Alaska Department of Fish and Game in June 2001. Staff from this agency traveled to all six villages where they trained permit vendors and provided them with permit issuing materials. Eleven additional workshops are planned during the course of this study. The next workshop will address Cook Inlet and Prince William Sound subsistence fisheries and is tentatively scheduled for September 2001.

Traditions, Knowledge, and Customs of the Alaska Peninsula/Becharof National Wildlife Refuge Complex and Aniakchak National Monument Subsistence Fishing Communities ($110,500/2 years)
Study Number: FIS 01-109
Investigators Information: Alaska Department of Fish and Game, Division of Subsistence; and Bristol Bay Native Association
Status: Ongoing; Annual Report Due May 2002.

Summary: Information on Traditional Ecological Knowledge and customs will be collected, inventoried and summarized for nine Alaska Peninsula communities, Chignik, Chignik Lagoon, Chignik Lake, Ivanof Bay, Perryville, Port Heiden, Pilot Point, Ugashik, and Egegik. This information will then be entered into the searchable computer database being developed in study FIS 00-012, Traditional Knowledge of Fish in the Bristol Bay Area (see above). New information will also be collected during the course of this study, and interviews of knowledgeable individuals are underway in the villages of Port Heiden, Pilot Point, Ugashik, and Egegik. Interviews in the remaining study villages have not yet begun. Some key respondents identified by Tribal Councils now live in Anchorage.

Investigators held a meeting in King Salmon during June 2001 to present an overview of the study and evaluate a draft of the interview guide. Representatives from all Alaska Peninsula Tribal Councils were invited, but not all were able to attend. This information was also sent to Councils without representatives in attendance. After the June meeting, Bristol Bay Native Association consulted with Tribal Councils to identify elders and knowledgeable individuals that should be contacted for interviews, and to hire local residents to serve as research assistants. Meetings were held with the Tribal Councils of Port Heiden, Pilot Point, Ugashik, and Egegik to

present study goals, answer questions, and hire and train research assistants to conduct interviews. Similar meetings will be held with the Tribal Councils of Chignik, Chignik Lagoon, Chignik Lake, Ivanof Bay, Perryville.

Project Information and Access System ($150,000/1 year)
Study Number: FIS 01-154
Investigator(s): Alaska Department of Fish and Game, Division of Sport Fish
Status: Ongoing; Annual Report Due December 2001

Summary: This study will develop a prototype for an information and data system to demonstrate its functionality and benefits. It is anticipated that the prototype will consist of an Internet-based Geographic Information System interface that will include searchable databases for 1) studies, including information on investigators, descriptions, objectives, locations, and species affected; 2) contacts, including information on staff names, titles, telephone numbers, mailing addresses, and email addresses; and 3) publications, including abstracts and, when possible, full-text reports. The database prototype will be developed based on recommendations from a working group comprised of state and federal agency representatives with expertise in database design, computer hardware and software, and knowledge concerning historic and new information sources within their organization. The first meeting of Alaska Department of Fish and Game working group members has not yet occurred due to conflicts with critical summer projects and key staff turnover. This meeting is now scheduled for September 2001, and will focus on confirming the goals, budget, and staffing for the study as well as development of a roadmap for completing the work. A meeting with Federal representatives will be held shortly after the meeting of State representatives.

Harvest Assessment of the Recreational Fishery for Salmon in the Alagnak River ($149,600/2 years)
Study Number: FIS 01-173
Investigator(s): Alaska Department of Fish and Game, Sport Fish Division; Bristol Bay Native Association; and National Park Service, Katmai National Park
Status: Ongoing; Annual Report Due May 2002.

Summary: The purpose of this study is to obtain detailed information concerning chinook and coho salmon harvests by sport anglers fishing the Alagnak River. To accomplish this, a creel survey was conducted from June 25 through August 26, 2001. Two changes were made to field operations to more effectively utilize available staff and funds while still meeting study objectives. First, the survey was not continued through September 11, as originally planned, because most fly-in guides and local lodges had stopped operating by August 24. Second, the size of the upper index area was reduced from 15 to 9 miles based on the distribution of angling effort. High water levels during the summer made angling difficult and flooded most camping sites within the survey area. This eliminated raft-based anglers from the river. Additional changes to the sampling design may be made for 2002, including the addition of another sample

day each week. All data collected this year have been scanned into electronic files from field data collection forms, but have not yet been edited and analyzed.

Two area residents, one from Levelock and another from Iliamna, were hired and trained as field technicians for the study. The efforts of the late Tony Talekpalek, as primary contact for Levelock Natives Limited, greatly contributed to the success of the study through his facilitation and coordination of hiring, housing, fuel supplies, general logistical support, and a training workshop held in conjunction with Bristol Bay Native Association and Alaska Department of Fish and Game.

Estimate coho salmon escapement in the Ugashik lakes system, Alaska Peninsula National Wildlife Refuge ($326,100/3 years)
Study Number: FIS 01-204
Investigator(s): U.S. Fish and Wildlife Service, King Salmon Fishery Resource Office
Status: Ongoing, Annual Report Due May 2002.

Summary: This study will provide estimates of the number of coho salmon entering the Ugashik lakes system to spawn. This will be done by extending operations of a tower project at the outlet of lower Ugashik Lake used by Alaska Department of Fish and Game to count sockeye salmon. Investigators began coho salmon counting operations on July 26, 2001, but the first coho salmon was not observed until August 2, 2001. Estimated coho salmon escapement into Ugashik lakes through September 17, 2001 was 3,492. Due to the relatively low number of coho salmon passing the tower site each day, it has been difficult for the field crew to sample the run to collect age, length, and sex information. Coho salmon escapement estimates have been provided to the Alaska Department of Fish and Game, Division of Commercial Fisheries, Areas Management Biologist each week for use in management decisions.

Both Ugashik Traditional Village and Bristol Bay Native Association have been actively involved in recruiting local residents for field technician positions. The counting tower crew consists of employees from U.S. Fish and Wildlife Service, Alaska Department of Fish and Game, and Bristol Bay Native Association.

Estimate Sockeye and Coho Salmon Escapement in Mortensen Creek, Izembek National Wildlife Refuge ($285,300/3 years)
Study Number: FIS 01-206
Investigator(s): U.S. Fish and Wildlife Service King Salmon Fishery Resource Office
Status: Ongoing, Annual Report Due May 2002.

Summary: This study will provide estimates of the number of sockeye and coho salmon passing through a weir to spawn in the Mortensen Creek drainage. Salmon counting operations began July 1, 2001, and total escapement through September 9, 2001 was 4,196 sockeye, 21 chum, 16 pink, and 2,137 coho salmon. Through September 9, 2001 age, length and sex information was

collected from 513 sockeye salmon. It has been difficult to capture salmon in the trap box installed in the weir due to low water flows. If this continues, other methods, such as a seine, will be used to capture salmon for sampling. Salmon escapement estimates have been provided to the Alaska Department of Fish and Game, Division of Commercial Fisheries, Areas Management Biologist each week for use in management decisions.

Unfortunately, no residents from local communities were hired to assist with weir operations. Although King Cove Corporation advertised the availability of a position for 30 days, no one applied for the job. U.S. Fish and Wildlife Service, King Salmon Fishery Resources Office, hired a fishery technician to fill this position. Greater outreach efforts will be made to find local residents to assist with this project in the following years.